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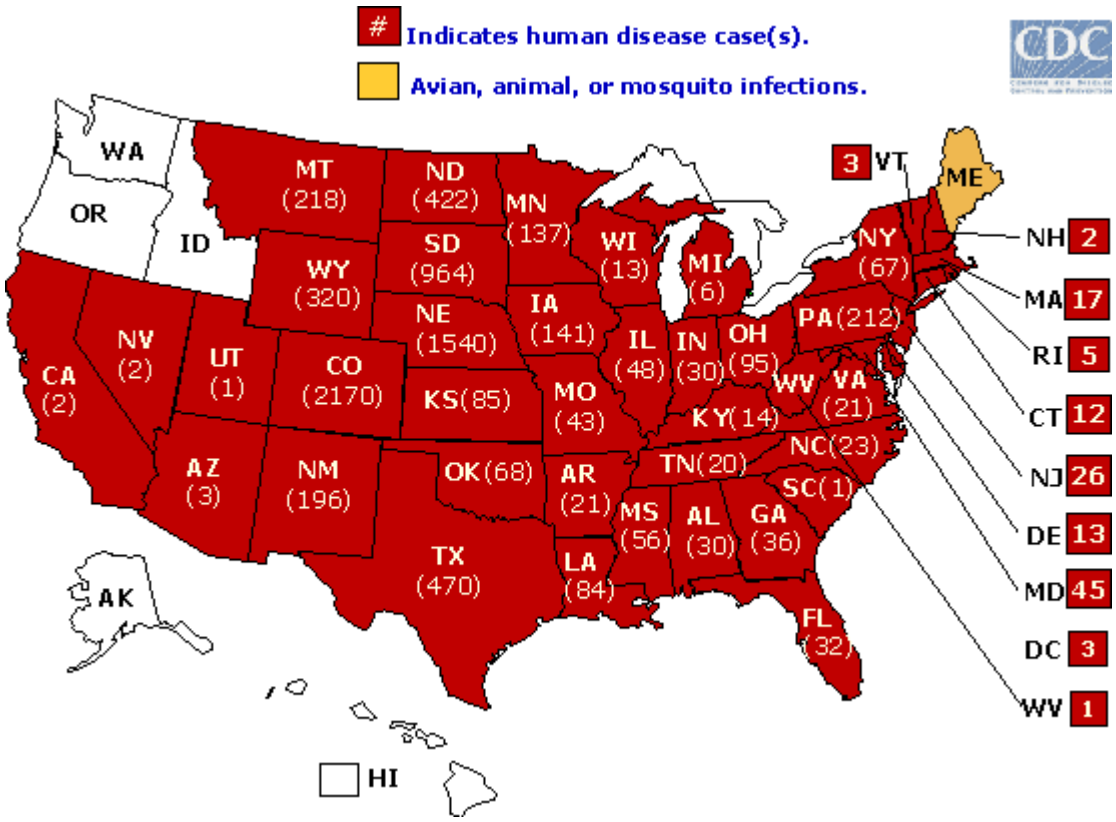
West Nile Virus Newsletter

This is an electronic publication designed to keep you informed on issues of interest related to West Nile virus (WNV) in Washington, and provide current information to assist you in developing a response plan to WNV in your jurisdiction.

Surveillance News

West Nile Virus in the United States as of October 29, 2003



The above map shows the distribution of avian, animal, or mosquito infection during 2003 with number of human cases if any, by state. If West Nile virus infection is reported to CDC Arbonet in any area of a state, that entire state is shaded accordingly.

The 2003 WNV season appears to be winding down quite nicely in most parts of the continent. Although case numbers are still increasing, this is more likely reporting lag due to overwhelming caseloads in many laboratories.

At the end of October, only four continental states have not reported WNV activity within their borders in 2003: Washington, Oregon, Idaho, and Nevada. Nevada has reported human cases that were infected while on travel outside of the state. Despite detecting activity in 2002, Washington and Idaho still have not detected activity in 2003. (USGS report)

Changes to the WNV Newsletter

There will be some changes to the WNV Newsletter after this issue. The newsletter will be produced once per month with a publication date of the second Friday of each month through March 2004. The next issue you will see will be December 12, 2003.

Mosquito Control Districts - Mosquito Control in Clark County

Submitted by: Lou Dooley and Cheryl Staggs

History:
Through 1982, the Southwest Washington Health District (SWWHD) carried out mosquito control activities within Clark County. During a cycle of poor revenue reports, the mosquito control program was eliminated. During the summer of 1982, a group of concerned citizens petitioned the Clark County Board of Commissioners to form a mosquito control district. The matter was placed on the ballot of the next general election, and the district was formed by a vote of the people. The Board of Trustees of the Clark County Mosquito Control District (CCMCD) had its first meeting in March 1983. An assessment of one percent per $1000 of assessed value was levied, and beginning in 1984, $75,000 was collected. The Board of Trustees represents each of the county commissioner districts and the cities of Vancouver, Camas, Washougal, and Ridgefield. Additionally, the towns of Yacolt and La Center participate with their representatives. The mosquito control district then contracted with the SWWHD for administrative oversight and functions. Pursuant to the dissolution of the SWWHD, a contract with Clark County Health Department is under development.

From the first $75,000 budget, expenditures have grown as additional services were desired, the budget for 2003 stands at approximately $280,000. A new building is currently underway as a new field "shop," and will be funded from savings ($700,000) generated for the new building and an emergency fund.

Present:
Currently, eight temporary employees implement the District's Integrated Pest Management program. While being "temporary," the staff has been together for 5–20 years. This stability has provided consistent, high quality services.

Being bordered on two sides by the Columbia River, and by the Lewis River on another, nuisance mosquitoes (*Aedes vexans*) are the most prolific among the pests in Clark County. This "floodwater mosquito" hatches after fluctuations in water levels along the county's rivers.

Surveillance activities carried out by CCMCD staff include capturing more than 11,000 mosquitoes of 12 different species. Staff are trained and adept at identification, and have purchased equipment to analyze captured mosquito (1,841) pools for the presence of WNV. Seventeen trap sites yielded 11 pools of *Culex* mosquitoes that were tested for WNV. The majority of mosquitoes identified were *Aedes vexans* (589) and *Ochlerotatus sticticus* (660), followed by *Culex tarsalis* (255) and *Culex pipiens* (240).

The transportation of birds for dead bird surveillance continued to be somewhat problematic due the distance to the lab in Pullman and the timing of the needed transportation. Only four birds were deemed acceptable for analysis and sent to the lab. All were negative, as was a single horse sample.

Treatment methods in Clark County include: larviciding via helicopter; broadcasting of larvicide from trucks, ATVs, amphibious vehicles, backpacks, and placing larvicide briquettes in storm drains/catch basins. A very limited amount of adulticiding is performed due to the limited effectiveness and duration of the materials.

A long established "mosquito hotline" normally captures more than 90 service requests each year; the 2003 number was just under 600.

Local Health Focus – Kitsap County Health District

Submitted by: Keith Grellner, Kitsap County Health District

The Kitsap County Health District (KCHD) developed and implemented a WNV Surveillance, Education, and Response Plan in early 2003. In mid-2003, the WNV plan was dovetailed into the Emergency Response Plan that was part of the developing Public Health and Hospital Emergency Preparedness and Response planning for Region 2 (Kitsap, Jefferson, and Clallam counties). Both plans stress community and agency (local, state, tribal, and federal) partnerships to maximize efficiency and coordination. Implementing the WNV plan included developing a GIS-compatible database to track dead bird and mosquito surveillance information, a 24-hour hotline for dead bird reports, a public information/education program and volunteer recruitment, and training to assist in mosquito surveillance.

KCHD received over 530 reports of dead bird sightings in 2003. Roughly 10 to 20 percent of the dead bird reports were for non-target species. About 100 of these birds were collected by KCHD staff or delivered to the KCHD by the public. Many of the collected/submitted birds were too badly decomposed to send for testing. All of the 30 specimens sent for laboratory analysis in Pullman tested negative for WNV. Dead bird reports to KCHD peaked during the week of June 21 - 27, 2003, when 50 reports were made. Between May 24, 2003, and August 29, 2003, there was an average of 25 dead bird reports per week. Dead bird reports have dropped-off sharply since August 29, 2003 to an average of five reports per week.

Based on experience and a first-time, very limited mosquito surveillance program this year, Kitsap County does not appear to have a widespread mosquito problem. There are, however, "pockets" of areas that have relatively significant, seasonal mosquito populations. Kitsap County did not have any level of mosquito surveillance (until this year) or control programs. Although the KCHD has not analyzed and assessed the mosquito surveillance data yet, hopes are

that efforts this year will develop a solid foundation to build on for the coming years.

Funding is a serious, major hurdle for future WNV surveillance and control efforts in Kitsap County. At this point, there are no earmarked or available local funding mechanisms for any local agency to support WNV surveillance and control, although Kitsap County Surface and Storm Water Management has obtained an NPDES mosquito control permit for emergency use. KCHD led local WNV efforts for 2003 and incurred about $20,000 of non-funded expenses to support WNV work.

The Environmental Health Division has evolved into a "fee or contract-for-service" funded program over the past five years due to cuts in public health funding. Staff levels are at a bare-minimum to match fee and contract revenues. Staff cannot do unfunded work without sacrificing productivity and efficiency in the funded programs.

Due to the lack of funding, WNV work for 2003 was handled through the Environmental Health Director, with assistance from the On-Site Sewage Manager and an Environmental Health Specialist from the Water Quality Program. At this point, it is difficult to foresee these positions being able to dedicate the same amount of time and energy in 2004 as they did in 2003 without supplemental funding.

The KCHD will be working with the county Board of Health and Kitsap County over the coming months to strategize a WNV approach for 2004.

Mosquito Focus – *Ochlerotatus sierrensis*

Ochlerotatus sierrensis is a floodwater mosquito. Commonly known as the tree hole mosquito, the female lays her eggs individually in rot holes that develop in some trees. As spring rains or irrigation water fills the tree hole, the eggs are stimulated to hatch. Larvae may occasionally be found in artificial containers with heavy leaf sediment. Hatching of eggs occurs during the initial fall rains. Spring rains increase the water content of tree holes and may hatch eggs not previously inundated.

Adults most often are seen from February through June and occasionally later depending on the location. Adults do not fly far from source where they hatch. Females take blood meals one or two days after emerging and are considered vicious biters of man in some areas. This mosquito can transmit the canine heartworm parasite and is a severe pest of humans. Males are attracted to warm-blooded animals and may mate with females when they approach to feed. Copulation generally takes place while in flight but occasionally as the female is feeding or at rest. Blood meals are taken anytime of day, even in full sun.

Ochlerotatus sierrensis is widely distributed in western North America from British Columbia south to Baja California and east to Utah.

Article Submission

We are interested in receiving articles for future publications of the WNV newsletter. Please submit articles to Tom Gibbs, tom.gibbs@doh.wa.gov.

Community Comments

Let us hear your comments on this newsletter, your needs, or things you would like to see, by sending them to Maryanne Guichard, (360) 236-3391 or maryanne.guichard@doh.wa.gov.

WNV Web Resources

Washington State Department of Health www.doh.wa.gov/wnv
Center for Disease Control http://www.cdc.gov/ncidod/dvbid/westnile/
Washington State University Cooperative Extention http://wnv.wsu.edu/
Cornell University, Center for Environment http://www.cfe.cornell.edu/erap/WNV
Washington State Department of Agriculture
http://agr.wa.gov/FoodAnimal/AnimalHealth/Diseases/WestNileVirus/default.htm

DOH Contact List for West Nile Virus

General Public Toll-Free Hotline 1-866-78VIRUS

Publications: Brochures/Response Plan/Fact Sheets
Laura Harper, (360) 236-3380, or laura.harper@doh.wa.gov.

Surveillance: Mosquito
Jo Marie Brauner, (360) 236-3064, or jomarie.brauner@doh.wa.gov.

Surveillance: Dead bird surveillance and general WNV response
Tom Gibbs, (360) 236-3060, or tom.gibbs@doh.wa.gov.

Surveillance: Horses, case reporting, laboratory assistance
Dr. John Grendon, (360) 236-3362, or john.grendon@doh.wa.gov.

NPDES: Training, technical assistance
Ben Hamilton, (360) 236-3364, or benjamin.hamilton@doh.wa.gov.

WNV in Humans: Clinical information, case reporting, and laboratory testing
Call your local health jurisdiction or DOH Communicable Disease Epidemiology, (206) 361-2914 or (877) 539-4344.

Assistance with news releases and media response
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